## Claims

1. Flexible substrate with a base layer (12) of plastic and at least one electrically conductive structure (20) printed with electrically conductive ink on one side of the base layer (12)

   characterised in that,

   the, at least one, electrically conductive structure (20) between the base layer (12) and at least one top layer (14) of plastic and each of the possible further electrically conductive structures (22) is situated between each of the two further top layers, and the base layer (12) joined to the, at least one, top layer (14) and each of the possible further top layers with neighbouring top layers.

2. Flexible substrate according to claim 1, characterised in that the at least one top layer (14) exhibits at least one further electrically conductive structure (22) printed with electrically conductive ink on the at least one top layer (14), and an electrically insulating intermediate layer (18) of plastic is provided between each of the electrically conductive structures (20, 22).

3. Flexible substrate according to claim 2, characterised in that the, at least one, top layer (14) is formed by the, at least one, further electrically conductive structure (22) of the base layer (12) with the electrically conductive structure (20) folded at least once over itself.

4. Flexible substrate according to claim 1 or 2, characterised in that the substrate is rolled up.

5. Flexible substrate according to one of the claims 2 to 4, characterised in that the electrically conductive structures (20, 22) are conductive strips that cross each other many times.

6. Flexible substrate according to one of the claims 1 to 5, characterised in that the, at least one, electrically conductive structure (20) comprises structure parts ($20_n$, $20_{n-1}$) that are printed one over the other and each printed structure ($20_n$) is set back from the edge of the underlying printed structure ($20_{n-1}$) forming a step.

7. Flexible substrate according to one of the claims 1 to 6, characterised in that the base layer (12) and the, at least one, top layer (14) or in the case of further top layers, at least the top layer furthest removed from the base layer (12) each exhibits a barrier layer (16) as barrier against penetration of water vapour.

8. Flexible substrate according to claim 7, characterised in that the barrier layer (16) exhibits a layer of at least one of the materials aluminium $Al_2O_3$ or $SiO_x$ with $0.9 < x < 2$, in particular $1.2 < x < 1.8$.

9. Flexible substrate according to claim 8, characterised in that the barrier layer (16) is an aluminium foil which is joined to the base layer (12) and the, at least one, top layer (14) or in the case of further top layers at least to the top layer furthest removed from the base layer (12) and is electrically separated from the electrically conductive structure (20).

10. Flexible substrate according to claim 9, characterised in that the aluminium foil is situated on the outside of the base layer (12) and on the outside of the top layer (14) furthest removed from the base layer (12).

11. Flexible substrate according to claim 8, characterised in that the barrier layer (16) is provided in the form of a layer deposited in vacuum inside or on the outside of the base layer (12) and the top layer (14).

12. Process for continuous printing electrically conductive structures (20, 22)

with an electrically conductive ink on a flexible substrate (10) of plastic, characterised in that the substrate is printed using the gravure printing method, intaglio or rotogravure.

13. Process according to claim 12, characterised in that the electrically conductive structures (20, 22) are printed a number of times on top of each other a number of times in order to increase the electrical conductivity.

14. Process according to claim 13, characterised in that the edge of each printed structure ($20_n$) is set back from the edge of the underlying printed structure ($20_{n-1}$) thus forming a step.